



Making Worship Center Stronger

Full Mitigation Best Practice Story

Charlotte County, Florida

Punta Gorda, FL - A church pastor and his congregation are thankful for hurricane-resistant features of the Worship Center at the First Baptist Church of Punta Gorda. Eight church staff members hunkered down safely in the worship center while Hurricane Charley, packing winds strong enough to rip the steeple off the church roof, swept through the quiet city, leaving widespread destruction behind. The church, established in 1887, built the new sanctuary in 2001 utilizing the new building codes and other storm-resistant methods and materials.



"We're thankful for the strength and integrity of the structure," said Paul Russell, pastor of the 815 member church. The Worship Center blocked the wind from hitting directly on the Fellowship Hall and Religious Education Center. "We may have lost more from those other buildings had the Worship Center not been here to protect them."

James Murray, the church's chairman of property and space, said, "When planning began for building the \$1.3 million Worship Center, discussion centered on how it could be constructed to exceed the building code and what types of mitigation might be employed." Serving as construction manager for a Punta Gorda-based commercial contractor, Murray has worked in construction since 1961 and is well aware of elements of the building code and mitigation measures that can be taken. Without taking the proper preventative measures, the estimated loss could have exceeded \$250,000, he said.

When this project was started, "We weighed facade - how it looks - versus construction," and spent extra dollars on the masonry, concrete and structural aspects of the building. Laminated arches and beams were used rather than steel construction at an additional cost of \$40,000. And that, said Murray, combined with reinforced concrete block walls and "tie-beams" made the building much stronger and conformed to the Florida Building Code in designing the structure.

There was some cosmetic damage from Hurricane Charley. Flying shingles from another building left tar marks on the worship center. Although the prefabricated steeple was ripped from the sanctuary roof by the high wind, there was no damage to the main structure. "It's just a great structure," Murray said. Construction costs were paid through church membership donations and fundraising projects.

It was obvious that the mitigation measures used in the construction of the Worship Center saved the structure from incurring further damage from Hurricane Charley. Recognizing the benefits of these measures, church leaders of the First Baptist Church in Punta Gorda are initiating two additional mitigation measures to strengthen the Worship Center. They are installing storm shutters for the bigger windows and high-impact glass on the structure's smaller windows. High impact glass is able to withstand winds up to 150 miles per hour. With these measures in place, their goal is to have a structure that will serve as a safe, storm resistant community shelter as well as a church.

Having spent the additional money building to a higher standard, Murray stated, "We have absolutely no regrets."

Activity/Project Location

Geographical Area: **Single County in a State**

FEMA Region: **Region IV**

State: **Florida**

County: **Charlotte County**

City/Community: **Punta Gorda**

Key Activity/Project Information

Sector: **Private**
Hazard Type: **Hurricane/Tropical Storm**
Activity/Project Type: **Building Codes**
Activity/Project Start Date: **01/2001**
Activity/Project End Date: **01/2003**
Funding Source: **Private funds**
Funding Recipient: **Non profit - Religious**
Funding Recipient Name: **First Baptist Church of Punta Gorda**

Activity/Project Economic Analysis

Cost: **\$1,200,000.00 (Estimated)**

Activity/Project Disaster Information

Mitigation Resulted From Federal
Disaster? **No**
Value Tested By Disaster? **Yes**
Tested By Federal Disaster #: **No Federal Disaster specified**
Year First Tested: **2001**
Repetitive Loss Property? **Unknown**

Reference URLs

Reference URL 1: **<http://www.floridadisaster.org/BRM>**
Reference URL 2: **<http://www.nhc.noaa.gov/>**

Main Points

- Laminated arches and beams were used rather than steel construction at an additional cost of \$40,000, combined with reinforced concrete block walls and "tie-beams."
- There was some cosmetic damage from Hurricane Charley. Flying shingles from another building left tar marks on the worship center. Although the prefabricated steeple was ripped from the sanctuary roof by the high wind, there was no damage to the main structure.
- It was obvious that the mitigation measures used in the construction of the Worship Center saved the structure from incurring further damage from Hurricane Charley.